VALIDATION, VERIFICATION, AND TESTING PLAN CHECKLIST

GUIDELINES FOR THE VALIDATION, VERIFICATION, AND TESTING PLAN CHECKLIST:

This checklist is provided as part of the evaluation process for the Validation, Verification, and Testing Plan. The checklist assists designated reviewers in determining whether specifications meet criteria established in HUD's System Development Methodology (SDM). The objective of the evaluation is to determine whether the document complies with HUD development methodology requirements.

Attached to this document is the DOCUMENT REVIEW CHECKLIST. Its purpose is to assure that documents achieve the highest standards relative to format, consistency, completeness, quality, and presentation.

Submissions must include the following three documents, and must be presented in the following order: (First) Document Review Checklist, (Second) the Validation, Verification, and Testing Plan Checklist, and (Third) the Validation, Verification, and Testing Plan.

Document authors are required to complete the two columns indicated as "AUTHOR X-REFERENCE Page #/Section #" and "AUTHOR COMMENTS" before the submission. Do NOT complete the last two columns marked as "COMPLY" and "REVIEWER COMMENTS" since these are for the designated reviewers.

Document reviewers will consult the HUD SDM and the SDM templates when reviewing the documents and completing the reviewer's portions of this checklist.

AUTHOR REFERENCE (Project Identifier):

Designated Reviewers:	Start Date:	Completed Date:	Area Reviewed:	Comments:
1:				
2:				
3:				
4:				
Summary Reviewer:				

VALIDATION, VERIFICATION, AND TESTING PLAN CHECKLIST

The Validation, Verification, and Testing Plan provides guidance for management and technical efforts throughout the test period. It establishes a comprehensive plan to communicate the nature and extent of testing necessary for a thorough evaluation of the system. This plan is used to coordinate the orderly scheduling of events by providing equipment specifications and organizational requirements, the test methodology to be employed, a list of the test materials to be delivered, and a schedule for user (tester) orientation and participation. Finally, it provides a written record of the required inputs, execution instructions, and expected results of the system test.

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* Each testing location and test identifier should be under a separate header.
  Generate new sections and subsections as necessary for each testing location
  from 3.3 through 3.x, and for each test from 5.1 through 5.x.

VALIDATION, VERIFICATION, AND TESTING PLAN CHECKLIST

REQUIREMENT	AUTHOR X-REFERENCE Page #/Section #	AUTHOR COMMENTS	COMPLY		REVIEWER COMMENTS
	To be completed by Author		To be completed by Reviewer		
			Y	N	
1.0 GENERAL INFORMATION					
1.1 **Purpose:** Describe the purpose of the Validation, Verification, and Testing Plan.					
1.2 **Scope:** Describe the scope of the Validation, Verification, and Testing Plan as it relates to the project.					
1.3 **System Overview:** Provide a brief system overview description as a point of reference for the remainder of the document, including responsible organization, system name or title, system code, system category, operational status, and system environment or special conditions.					
1.4 **Project References:** Provide a list of the references that were used in preparation of this document.					
1.5 **Acronyms and Abbreviations:** Provide a list of the acronyms and abbreviations used in this document and the meaning of each.					
1.6 **Points of Contact:**					
1.6.1 **Information:** Provide a list of the points of organizational contact (POCs) that may be needed by the document user for informational and troubleshooting purposes.					
1.6.2 **Coordination:** Provide a list of organizations that require coordination between the project and its specific support function. Include a schedule for coordination activities.					

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2.0 TEST EVALUATION					
2.1 **Requirements Traceability Matrix:** Prepare a functions/test matrix that lists all application functions on one axis and cross-reference them to all tests included in the test plan.					
2.2 **Test Evaluation Criteria:** Decide the specific criteria that each segment of the system/subsystem must meet.					
2.3 **User System Acceptance Criteria:** Describe the minimum function and performance criteria that must be met for the system to be accepted as "fit for use" by the user or sponsoring organization.					
3.0 TESTING SCHEDULE					
3.1 **Overall Test Schedule:** Prepare a testing schedule to reflect the unit, integration, and system acceptance tests and the time duration of each. This schedule should reflect the personnel involved in the test effort and the site location.					
3.2 **Security:** Prepare a list of requirements necessary to ensure the integrity of the testing procedures, data, and site. Any special security considerations (e.g., passwords, classifications, security or monitoring software, or computer room badges) should be described in detail.					

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3.x	**[Testing Location Identifier]:** *(Each testing location in this section should be under a separate header. Generate new subsections as necessary for each location from 3.3 through 3.x.)* Identify the location at which the testing will be conducted, and the organizations participating in the test. List the tests to be performed at this location.					
	3.x.1	**Milestone Chart:** Provide a chart to depict the activities and events, as well as give consideration to all tests scheduled for this location.				
	3.x.2	**Equipment Requirements**: Provide a chart or listing of the period of usage and quantity required of each item of equipment employed throughout the test period in which the system is to be tested.				
	3.x.3	**Software Requirements:** Identify any software required in support of the testing when it is not a part of the system being tested.				
	3.x.4	**Personnel Requirements:** Provide a listing of the personnel necessary to perform the test.				
	3.x.5	**Deliverable Materials:** Itemize all materials that will be delivered as part of the system test, to include the quantity and full identification.				
	3.x.6	**Testing Tools:** Identify the testing tools to be used during the preparation for and execution of the test.				
	3.x.7	**Site Supplied Materials:** Describe any materials required to perform the test that need to be supplied at the test site.				

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4.0 TESTING CHARACTERISTICS					
4.1 **Testing Conditions:** Indicate whether the testing will use the normal input and database or whether some special test input is to be used.					
4.2 **Extent of Testing:** Indicate the extent of the testing to be employed. If limited testing is to be employed, present test requirements either as a percentage of some well-defined total quantity or as a number of samples of discrete operating conditions or values. Indicate the rationale for adopting limited testing..					
4.3 **Data Recording:** Indicate data recording requirements for the testing process, including data not normally recorded during system operation.					
4.4 **Testing Constraints:** Indicate the anticipated limitations imposed on the testing because of system or test conditions (timing, interfaces, equipment, personnel).					
4.5 **Test Progression**: Include an explanation concerning the manner in which progression is made from one test to another so that the cycle or activity for each test is completely performed.					

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4.6	**Test Evaluation:**					
4.6.1	**Test Data Criteria:** Describe the rules by which test results will be evaluated.					
	4.6.1.1 **Tolerance:** Discuss the range over which a data output value or a system performance parameter can vary and still be considered acceptable.					
	4.6.1.2 **System Breaks:** The maximum number of interrupts, halts, or other system breaks which may occur because of non-test conditions.					
4.6.2	**Test Data Reduction:** Describe the technique to be used for manipulation of the raw test data into a form suitable for evaluation, if applicable.					

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5.0 TEST DESCRIPTION					
5.x **[Test Identifier]:** *(Each test in this section should be under a separate header. Generate new subsections as necessary for each test from 5.1 through 5.x.)* Describe the test to be performed.					
5.x.1 **System Functions:** Provide a detailed list of the system and communications functions to be tested.					
5.x.2 **Test/Function Relationships:** Provide a list of the tests that constitute the overall test activity. Include a test/function matrix summarizing the overall allocation of the system tests to the functions.					
5.x.3 **Means of Control:** Indicate whether the test is to be controlled by manual, semiautomatic, or automatic means.					
5.x.4 **Test Data:** Identify any security considerations in each of the following subsections.					
5.x.4.1 **Input Data:** Describe the manner in which input data are controlled in order to test the system with a minimum number of data types and values, exercise the system with a range of bona fide data types and values that test for overload, saturation, and other "worst case" effects, and exercise the system with bogus data and values that test for rejection of irregular input.					
5.x.4.2 **Input Commands:** Describe steps used to control initialization of the test; to halt or interrupt the test; to repeat unsuccessful or incomplete tests; to alternate modes of operation as required by the test; and to terminate the test.					

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5.x.4.3 **Output Data:** Identify the media and location of the data produced by the tests.					
5.x.4.4 **Output Notification:** Describe the manner in which output notifications (messages output by the system concerning status or limitations on internal performance) are controlled.					
5.x.5 **Test Procedures:**					
5.x.5.1 **Procedures:** Describe the step-by-step procedures to perform each test.					
5.x.5.2 **Setup:** Describe or refer to standard operating procedures that describe the activities associated with setup of the computer facilities to conduct the test, including all routine machine activities.					
5.x.5.3 **Initialization:** Itemize, in test sequence order, the activities associated with establishing the testing conditions, starting with the equipment in the setup condition.					
5.x.5.4 **Preparation:** Describe, in sequence, any special operations.					
5.x.5.5 **Termination:** Itemize, in test sequence order, the activities associated with termination of the test.					